

AMENDMENTS TO THE CLAIMS

1 (currently amended): An apparatus for high efficiency gas temperature and humidity adjustment, comprising:

a cooling coil; and

a condensate water removal means member coupled to said apparatus for physically and forcibly removing condensate water deposited on said cooling coil, the ~~condensate water~~ depositing on said cooling coil during operation of said apparatus.

2 (previously amended): An apparatus for high efficiency gas temperature and humidity adjustment, comprising:

a cooling coil; and

a means for supplying the cooling coil with at least one of deaeration water and hydrogen water as cooling water.

3 (previously amended): An apparatus for high efficiency gas temperature and humidity adjustment, comprising:

a cooling coil; and

a condensate water removal means for removing condensate water deposited on said cooling coil, said condensate water removal means being a means for spraying compressed gas to said cooling coil.

4 (previously presented): The apparatus for high efficiency gas temperature and humidity adjustment of claim 3, wherein the pressure of said compressed gas is 2 to 10 kgf/cm².

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5 (previously presented): The apparatus for high efficiency gas temperature and humidity adjustment of claim 3, wherein said compressed gas is a cooling gas.

6 (previously amended): An apparatus for high efficiency gas temperature and humidity adjustment, comprising:

a cooling coil; and

a condensate water removal means for removing condensate water deposited on said cooling coil, said condensate water removal means coming physically into contact with the condensate water and having a function to remove the condensate water.

7 (previously presented): The apparatus for high efficiency gas temperature and humidity adjustment of claim 6, wherein said condensate water removal means is a brush.

8 (previously presented): The apparatus for high efficiency gas temperature and humidity adjustment of claim 7, wherein said brush is composed to be capable of removing said condensate water by rotation or other displacement.

9 (previously amended): An apparatus for high efficiency gas temperature and humidity adjustment, comprising:

a cooling coil, said cooling coil having cooling fins thereon, said cooling fins of said cooling coil being divided every one line or two lines or having slits for displacement guides disposed every one line or two lines of heat exchange fins; and

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a condensate water removal means for removing condensate water deposited on said cooling coil.

10 (previously amended): An apparatus for high efficiency gas temperature and humidity adjustment, comprising:

a cooling coil, a surface of said cooling coil being composed of a water-repellent surface; and

a condensate water removal means for removing condensate water deposited on said cooling coil.

11 (previously presented): The apparatus for high efficiency gas temperature and humidity adjustment of claim 1 comprising a means capable of spraying condensed liquid again.

12 (previously amended): An apparatus for high efficiency gas temperature and humidity adjustment, comprising:

a cooling coil, a surface treatment using alumite treatment film being applied to the surface of said cooling coil so that the heat transfer efficiency from the surface thereof to a gas by heat radiation can be improved; and

a condensate water removal means for removing condensate water deposited on said cooling coil.

13 (previously amended): An apparatus for high efficiency gas temperature and humidity adjustment, comprising:

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a cooling coil, an ultrasonic applying apparatus for applying vibration by ultrasonic waves being comprised on the surface of said cooling coil; and

a condensate water removal means for removing condensate water deposited on said cooling coil.

14 (previously amended): An apparatus for high efficiency gas temperature and humidity adjustment, comprising:

a cooling coil, a means for supplying a cooling water tube of said cooling coil with deaeration water; and

a condensate water removal means for removing condensate water deposited on said cooling coil.

15 (previously amended): An apparatus for high efficiency gas temperature and humidity adjustment, comprising:

a cooling coil, a means for supplying a cooling water tube of said cooling coil with hydrogen water; and

a condensate water removal means for removing condensate water deposited on said cooling coil.

16 (previously amended): A method for high efficiency gas temperature and humidity adjustment, the method comprising the steps of:

letting flow cooling water in a cooling water tube of a cooling coil; and

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cooling a gas to be cooled by letting flow the gas to be cooled between cooling fins,
wherein deaerated water is used as coil cooling water.

17 (new): An apparatus for high efficiency gas temperature and humidity
adjustment, comprising:

a cooling coil; and

a condensate water removal means for at least one of promoting and enhancing
removal of condensate water deposited on said cooling coil, said condensate water
removal means comprising a surface treatment of said heating coil, said surface
treatment at least one of causing the surface of said cooling coil to be water repellent and
improving the heat transfer efficiency of the surface of said cooling coil.